# VANCOUVER/RICHMOND RAPID TRANSIT ADVISORY COMMITTEE

October 30, 1992

Chair, Eric Denhoff and
Members of the BC Transit
Board of Directors
1200 West 73rd Avenue
Vancouver, B.C.
V6P 6M2

Dear Mr. Denhoff:

**Report of the Vancouver/Richmond Rapid Transit Advisory Committee**

We are pleased to submit a report of the Vancouver/Richmond Rapid Transit Advisory Committee. Over the past two and a half years, the Committee has spend much time seeking public input and studying the varied complex issues presented by the consultants. This letter will serve as a summary of our Study and will contain the conclusions the Committee as a whole has reached. The technical data in support of this report is contained in the Technical Summary from our Study consultants, N.D. Lea Consultants Ltd., along with other technical studies carried out for BC Transit on this Study.

## Introduction

In the summer of 1989, the Premier of the Province announced a proposed rapid transit link between Vancouver and Richmond. Transit investment, estimated at $750 million, was to be used to construct a line according to the 1989 Greater Vancouver Task Force report, "Freedom to Move", July, 1989. In that study, the highest priority for rapid transit was assigned to this corridor albeit the costs were estimated by staff based on light rail technology along the Arbutus alignment. A Rapid Transit Advisory Committee was to be struck in order to obtain public input, represent the interests of key actors and assess the likely impact of the transit development.

While establishing the terms of reference and composition of the Rapid Transit Advisory Committee, councils and BC Transit expanded the scope of the study to include consideration of alternative alignments and technology in the corridor. The specifics of the transit project including possible alignments and technologies were to be developed by consultants in conjunction with a Technical Committee. The Advisory Committee was

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to have a broader mandate. In addition to deciding on the question of alignment and technology to serve the corridor, the Advisory Committee was to make a judgement on attitudes, acceptance of the Study and depth of concern of key actors. After consideration of these factors a recommendation on an alignment and technology was to be made to the BC Transit Board.

**Committee's Mandate**

The announcement of the Advisory Committee was made on May 5, 1990 when members were introduced at a press conference by the Premier of the Province and the Minister of Transportation and Highways. The Advisory Committee includes five representatives nominated by cities along the axis of development, three nominated by the BC Transit Board, and a chair appointed by the Minister.

City of Vancouver Council nominees were Dr. Ken Denike and Brahm Wiesman; City of Richmond Council nominees were Alderman Kiichi Kumagai and Alderman Greg Halsey-Brandt (following civic elections in November 1990, Kumagai remained as a member and Councillor Don Cummings replaced Halsey-Brandt who was elected Mayor of Richmond); Delta Municipality Council nominee was Mike Owen; BC Transit Board nominees were Bill Vogel, Graham Clark and Member of Legislative Assembly Nick Loenen. The Minister appointed Georgiana Evans as Committee Chair.

The committee's mandate was broad:

- To advise BC Transit with respect to rapid transit technology, route and station locations, adequacy of the $750 million budget and timing and phasing of a rapid transit system between downtown Vancouver and Richmond Centre which must be extendable to Ladner and Steveston;

- To provide a forum for public participation and advise BC Transit regarding community related issues;

- To facilitate the resolution of inter-municipal disputes.

The mandate did not ask the Advisory Committee to address the question of whether there should be rapid transit in this corridor. The Provincial Government's decision was based on numerous previous studies, including the "Freedom to Move" Study which had actively involved various local councils in assessing the merits of a number of transportation options. It was not for the Advisory Committee to deliberate on the scale of infrastructure investment in the corridor. There were subsequent changes in the Committee's mandate but they involved enlarging the geographical boundaries of the study to consider rapid transit to the Vancouver International Airport. The Committee's mandate was not changed to include the issue of the appropriate level of investment.

Advisory Committees with the broad responsibilities to represent the interests of the provincial government, business, local governments, and residents along the axis of development are a new form of organization. They offer a forum for the review of concerns raised by residents and to some extent address the Ombudsman's report which echoed criticisms by communities disrupted by Phase I of SkyTrain. Construction of raised guideways in 1982 - 1985, and the early period of transit operation had been bitterly opposed. There was a pervasive feeling that the decision making process should be less arbitrary and more accountable to communities but elected councils had differing views on whether citizens or council members would best represent the public interest. Consequently the composition of the Advisory Committee was pivotal and delays occurred before Vancouver and Delta Councils nominated lay people while Richmond Council nominated council colleagues.

While delays in agreeing on the composition of the Advisory Committee occurred the Technical Committee began its work. A general framework for the study was divided into four stages; an initial inventory of all possible routes in the corridor would be successively reduced to ten, then three, and finally to the recommended route and technology. The screening or evaluation of alternative routes and technologies was in greater depth as the selection narrowed. In the early stages a robust and quick comparison of pairs of options would suffice. But for the final selection an elaborate set of criteria was proposed and in February 1990 a draft of these criteria was circulated to councils.

It is argued that the early appointment of the Technical Committee and selection of consultants established the project on a strong technical footing but out of phase with the public process. Technical work was well underway during fall 1989, while actual appointment of the Advisory Committee did not occur until May 5, 1990.

## Stage 1 Initial Presentation of Conceivable Options

The first stage, covering 200 options, was released to the public by the Technical Committee before the Advisory Committee had met. Three types of rapid transit technologies were presented and multiple alignments in a corridor from Arbutus Street in the west to Main Street in the east were sketched. Technologies included: LRT (Light Rail Transit); ALRT (Automated Light Rail Transit or SkyTrain); and Busways (squadrons of busses running on dedicated roadways). At this stage of the study the emphasis was on sketching possible routes and the data on travel demand and future ridership on any specific alignment was not available.

The response by most residents to the project was positive. There is a growing frustration with congestion and recognition that public investment in rapid transit has been neglected in this corridor. But for residents proximate to the proposed alignments, their attention was clearly focused on visual, noise and real estate implications associated with particular segments of options through their neighbourhoods.

Some problems caused by the way the information was first presented to the public. Initial notification to residents was somewhat vague and many residents had the impression construction would start immediately as per Phase I of SkyTrain. There was also a lack of appreciation by technical staff for homeowners penchant for detail when their property may be threatened or expropriated. This in combination with a large scale map used in the media resulted in residents in several neighbourhoods not being immediately alerted to possible incursion. Many were informed by neighbourhood advocates arriving at the door. As should be expected there was bitter opposition from those who felt coerced and uninformed. Unnecessary and rather divisive debate occurred within neighbourhoods and between neighbourhoods. Many options were non-starters and could have been culled before alienating residents.

An early task of the Advisory Committee was to respond to these concerns by strengthening the opportunity for public and council input. A consequence of this was the subsequent changes in scheduling to provide for meaningful dialogue and permit the Advisory Committee recommendations for changes in the project to be digested.

The Advisory Committee set up an extensive public information and consultation process. Displays in community centres, shopping malls and storefront project offices were followed by workshops with community groups, cable television panel, discussions and three public hearings. Factual brochures were widely circulated and option surveys conducted.

By the time the public hearings were conducted by the Committee, a number of distinct neighbourhood groups had formed. A common criticism heard repeatedly by the Committee was that the proposed rapid transit line was for the benefit of commuters from the suburbs to the core and this was not sufficient reason for rapid transit on their street. There was no compelling answer by technical staff - origins and destinations of potential riders had been modelled in an aggregate way and at the time could not be assigned to each of the possible routes proposed.

In contrast to neighbourhood groups the Committee heard from the general public about lengthening queues at bus stops, growing road congestion, air pollution, and lack of political will at the municipal level to do anything about "nimbyism". While many survey respondents did not see that they personally would use rapid transit, ***virtually every survey respondent recognized what automobile traffic was doing to the social, economic and environmental fabric of their community and the benefit of a priority on public investment in rapid transit.***

Response from the three councils varied. In Stage 1 it became quickly evident to the Committee that it would be extremely difficult to reach a consensus. One matter that councils agreed to, the Committee lacked authority to address - was the larger political issue of transit financing. In short, the issue is that local governments want a regional

transit authority to provide more local autonomy and control over growing transit costs to avoid raising residential taxes.

The Committee heard from Vancouver City Council that preserving discretionary zoning in neighbourhoods was an issue. Council members argued that potential densification is more properly decided by local groups and is rightfully in the local political arena. Hence Vancouver City Council recommended that the land use and development implications of a rapid transit line beyond existing zoning should not be used to justify any of the alternative alignments or technologies. Councillors advised the Committee to examine better integration of existing bus transit as an alternative to a rapid transit investment of $750 million dollars. This constrains the technical staff in the identification of growth prospects associated with rapid transit. One consequence was a protracted technical dialogue and a gap in detailing anticipated ridership. It was not until Stage 3 of the study that ridership for specific routes was provided.

Richmond Council took a pro-active position on the project; the proposed rapid transit should be used to influence urban development and the route selected to satisfy planning goals. The Committee heard that Council recognized that rapid transit contributed to growth, attracted investment and the system could be used as a catalyst for development. The choice of technology was also viewed as a critical matter for the liveability and built form of Richmond Centre.

In response to Council's request, the Committee recommended that BC Transit provide a full review of an expanded bus system using existing streets in the Vancouver/Richmond corridor. BC Transit commissioned a separate independent study by consultants that ran concurrently with Stage 2. The report concluded that if transit was not to impair existing traffic flows unduly, a street bus option allowed for short term relief. Albeit, if some street space is allocated it is a feasible option for seven to nine years. In terms of traffic management this remedy had problems; few riders would be diverted from automobiles. Neither the time savings nor quality of ride is above the critical threshold required to significantly alter travel behaviour.

## Stage 2 – Rapid Transit Consultants' Proposals

From Stage 1 it was clear that a number of options for high capacity, capital intensive rapid transit could be dropped. In terms of the Committee's mandate the most significant change involved the recommendation not to continue evaluating dedicated busways. Continued reliance on buses would not work and there is limited busway capacity without freeways within the city. Costs to meet similar demand are more than for fixed rail options.

Low cost, at grade Light Rapid Transit systems involving significant road displacement did not compare favourably in terms of travel time criterion. Such systems are limited in the travel time reduction offered over a street based bus system. Furthermore, traffic management would be impaired by reallocation of street space for the exclusive use of transit. This would have adverse impacts on local communities and was not considered acceptable to the municipalities. Hence they were not given further detailed engineering study but were included for purposes of making fiscal evaluations. However, if the level of capital investment for infrastructure in the corridor is to become an overriding consideration and a different set of criteria were used to screen options, further analysis of at-grade L.R.T. systems is warranted.

The public process was put on hold during the civil election campaign period in November, 1990. There were significant changes in the make-up of Richmond and Delta Councils and in deference to their active involvement, presentation of options to the public was delayed until June 1991.

Ten options involving routes and technologies considered technically feasible were presented by the consulting engineers. Possible alignments on Arbutus and Cambie were emphasized because of the availability of dedicated right-of-ways and the desire not to unduly displace current traffic. While alignments were identified the intention was for information on structural characteristics and cost estimates to await Stage 3 once the number of routes had been reduced to a few.

The Committee heard many presentations in support of immediate action as well as residents concerned about the effect of rail transit on views, future economic impacts, and, mitigation measures. Residents had the opportunity at public open houses and by arrangement to explore mock-up architectural models and artistic renditions of possible transit structures. Specific mitigation requirements were not identified to achieve the goal of integrating transit into neighbourhoods in the corridor. Criteria for minimizing negative externalities of transit can better be established for specific engineering designs. It is the Committee's view that measures can be taken, albeit at some cost, to ensure that rapid transit is properly integrated into the communities through which it passes. During the detailed design phase certain policies specifying mitigation must be in place.

The Committee heard about alternative planning strategies proposed by Vancouver City Council and Richmond City Council that would significantly influence the choice of alignment and technology. There was considerable controversy over which of the ten options would minimize negative impacts while retaining the positive liveability of the corridor. But raised ALRT guideways were criticized by both Councils.

In Richmond the consultants explored options involving a street level light rail transit system. Planning for Richmond Centre was proceeding and the Committee heard how the human scale of transit vehicles and structures of an at grade system was appealing

to planners and residents. Alterations in particular alignments were suggested in response to a vacillating focus for transit and further evidence related to necessary right-of-way clearances.

Coinciding with Stage 2 the City of Vancouver Council was deliberating on a new rapid transit line/lines to serve the CBD. Rapid Transit was identified in the "Central Area Plan: Goals and Land Use Policy Proposal", June 18, 1991 as a factor in determining allowable office zoned capacity. Continued success of the central area office function for the next 15 to 20 years assumed a Vancouver/Richmond rapid transit line.

**Provincial Election and Re-Appointment**

The momentum of the Committee was lost due to the October, 1991 Provincial election. The Committee recommended that the public process be held in abeyance during the election campaign and afterwards in order to brief the new government on the status of the study. Public hearings which were scheduled to be held in November, 1991 were cancelled. The change in responsibility for BC Transit to the Ministry of Finance and Corporate Relations further delayed the schedule giving credence to the public perception that the study had been scrapped.

The Committee was reactivated in the Spring of this year with no change in membership or mandate, although the Committee no longer has representation from BC Transit Board of Directors and The Provincial Legislature. Hence this summary.

**Stage 3 Short List and Evaluation**

Three options were identified as viable. Alignments in the core areas of Vancouver and Richmond were altered to respect positions presented in Stage 2. Best engineering judgement is that there are three options in this corridor with sufficient capacity to accommodate the long term demand and are technically feasible - each involving different lengths of tunnelling and alignments in the core of Vancouver and each using Garden City/Lansdowne to enter the Richmond Town Centre: LRT (Light Rapid Transit) on either the Cambie or Arbutus alignment; or, ALRT (Automated Light Rapid Transit) on the Cambie alignment.

With the change in Provincial Government the context of the study had changed dramatically since the Committee had been appointed in May, 1990. To overcome the loss in momentum and advise Councils of the status of the project the Committee attempted to schedule a joint meeting with the three councils. Because of conflicting events the meeting did not occur until July 22, 1992. Numerous questions were raised at the meeting.

City of Vancouver Council, following a Council meeting on September 1, 1992, advised the Minister "THAT the Provincial Government be advised that the Vancouver/Richmond Rapid Transit Study should be suspended until such time as the G.V.R.D.'s Transportation 2021 study has been completed", and that a decision on the options should be evaluated in the context of regional priorities. An ongoing study by the G.V.R.D. is attempting to examine transit within a broader context than strictly as part of a study of alignments. Awaiting these study results would cause considerable delay and much of the experience gained by the Committee and consultants commissioned by BC Transit would be lost in the interim.

Public presentation of the Stage 3 options originally scheduled for October, 1992, were cancelled. The change in context of the study and directive by B.C. Transit Board to report by the end of October, 1992, did not provide the opportunity for a full public process.

The approach followed by the consultants to compare the alternative options can be described as "Transportation Systems Approach". The approach considers the operating characteristics for an expected travel pattern and models the configuration/operation for rapid transit options. It includes the experience gleaned from SkyTrain in Surrey only indirectly to estimate the diversion from automobile travel. The development potential associated with the introduction of rapid transit is not fully accounted for - the basis for the comparison is on proven/anticipated changes in the corridor.

The Committee felt that ridership was a critical issue and requested that an independent review of the ridership be conducted. The independent review confirmed that the methodology used was sound and the ridership estimates prepared by BC Transit staff were reasonable. The approach relies on estimated time savings to model diversion and only limited account is taken of the inherent attractiveness of rail based systems. An assumption of transportation system's approach is that costs incurred by commuters act as a deterrent both to driving and making trips during peak periods. As congestion increases alternate modes of transportation such as public transit become more attractive. The level of transit service establishes the maximum capacity. Constraints are addressed according to capacity of the option being modelled. A kind of equilibrium is achieved between automobile usage and transit ridership.

Social cost benefit analysis is generally used in conjunction with the transportation systems approach. Balancing of costs and benefits are largely traced to externalities such as diversion of automobile usage to transit hence evaluation depends on switching of modes. A key, then, is that ridership is critically dependent on time which clearly points to the shortest route for transit. Options which amortize capital intensive infrastructure require significant growth in transit ridership. Low interest rates encourage longer run discounting of larger capital investment. The consultants used an eight percent interest rate which seems reasonable.

Ridership for rapid transit in this corridor has been estimated for a period up to 30 years into the future. In estimating this ridership, it was assumed that new riders would continue to be attracted to the line over that time and that the rapid transit link should be designed to be capable of meeting those long term demands. However, the estimated capacity requirements beyond the 15 to 20 year horizon is difficult to assess as the City of Vancouver's Central Area Plan calls for a limit to the developable office space within the downtown core. The plan requires the addition of a rapid transit link between the core and Richmond to achieve the proposed office development. But after 20 years only marginal net increases in downtown office space are allowed for. To achieve the rapid transit ridership estimated beyond the time frame covered by this plan may create pressure for a higher level of office development than currently envisioned. Systems which do not provide the capacity of the ALRT technology may be able to provide the capacity which would be required to serve the downtown in the long term.

**Conclusions**

1. Based on extensive analysis, the Committee has concluded that an ALRT (Automated Light Rail Transit) system using Cambie Street alignment has many advantages over the other two options carried forward to the final evaluation. Some of these advantages are:

   - it is the most cost effective in terms of cost per passenger, including capital and operating costs;
   - it is most certain to have the capacity to meet very long term ridership projections;
   - it has the highest speed, and being the most direct, the shortest travel time;
   - it has the greatest potential for increasing transit use;
   - it provides the best service for travel across the North Arm of the Fraser River and for travellers from Delta and Surrey;
   - it is the best option based on a limited cost-benefit analysis which considers tangible transportation costs and benefits;
   - it is the option most in accord with the G.V.R.D.'s Liveable Region Strategy to connect Regional Town Centres by transit;

   All options serve the same number of present and future residents and jobs in Richmond. In suburban Vancouver the Cambie Street alignment serves more

present and future jobs and marginally fewer present and future residents based on current zoning.

The estimated cost of this is $788,000,000 in 1992 dollars excluding the cost of mitigation.

All the options considered have some adverse community impacts; most of these are detailed in the technical reports. To reduce the impacts, the Committee has recommended that the system run underground through most of the Vancouver portion of the route. Where the consultants have not indicated undergrounding the intrusive impact of an elevated structure should be mitigated with strong urban design that blends the structure with existing buildings, uses creative landscaping and, where feasible, a dedicated at-grade right-of-way should be maximized.

This route may allow for completion in stages which could provide certain benefits:

- The early reduction of automobile traffic into the downtown core;
- The capital costs could be allocated to separate projects over a longer period of time;
- The first stage could proceed while further studies were conducted to resolve issues within Richmond and with regard to the extension to Steveston and Ladner.

2. The Committee believes that there is an urgent need to provide rapid transit between Vancouver and Richmond and that this system should be in place within the next 10 years.

3. The right-of-way should be preserved now to reduce the imminent danger of losing portions to other major developments.

4. There is ample evidence that automobile and bus dominated transportation are environmentally costly and unsustainable for future urban development. Good quality rail transit systems which will last long into the future should be provided.

5. The ALRT on Cambie best fits the criteria that were used in the evaluation. However, there is still a high level of appeal for a low cost at-grade LRT system. A low cost LRT system such as the one in Portland is considered by some on the committee to be more urban friendly and to offer a lower initial capital cost.

   This type of system has a slightly higher capacity than a bus system, and offers certain appeal that could attract higher ridership than a bus only solution. This

type of system will generate lower ridership and has a lower ultimate capacity than alternatives utilizing a dedicated right-of-way. It will also adversely affect roadway capacity and traffic safety. If this type of system is to be considered further, additional studies will be required to determine the best design.

The members of the Vancouver/Richmond Rapid Transit Advisory Committee greatly appreciate the input we received from the Ministry of Finance, the Ministry of Transportation and Highways, the Councils and staffs of the City of Vancouver, the City of Richmond and the Municipality of Delta, the BC Transit Board of Directors and staff, and the members of the Technical Committee. We especially wish to thank those members of the public who have participated individually or as members of special interest groups, throughout this study.

Sincerely,

Georgiana Evans

Georgiana Evans, Chair
On behalf of the Committee

Enclosures

cc: Honourable Glen Clark, Minister of Finance
Mayor Gordon Campbell
Mayor Halsey-Brandt
Mayor Beth Johnson
Mayor L. Traboulay, Chair of Vancouver Regional Transit Commission
Mr. Dave Rudberg, P.Eng., City of Vancouver Engineering Department
Mr. Tom Fletcher, City of Vancouver Planning Department
Mr. Harvey Gibeault, P.Eng., City of Richmond Engineering Department
Mr. Ron Mann, City of Richmond Planning Department
Mr. Otto Voute, Corporation of Delta Engineering Department

# VANCOUVER/RICHMOND RAPID TRANSIT ADVISORY COMMITTEE

October 30, 1992

Chair, Eric Denhoff and
Members of the BC Transit
Board of Directors
1200 West 73rd Avenue
Vancouver, B.C.
V6P 6M2

Dear Mr. Denhoff:

**REPORT OF THE VANCOUVER/RICHMOND RAPID TRANSIT ADVISORY COMMITTEE**

## Executive Summary

We are pleased to submit a report of the Vancouver/Richmond Rapid Transit Advisory Committee. Over the past two and a half years, the Committee has spent much time seeking public input and studying the varied complex issues presented by the consultants.

## Introduction

In the summer of 1989, the Premier of the Province announced a proposed rapid transit link between Vancouver and Richmond. Transit investment, estimated at $750 million, was to be used to construct a line according to the 1989 Greater Vancouver Task Force report, "Freedom to Move", July, 1989. In that study, the highest priority for rapid transit was assigned to this corridor, albeit the costs were estimated by staff based on light rail technology along the Arbutus alignment. A Rapid Transit Advisory Committee was to be struck in order to obtain public input, represent the interests of key actors and assess the likely impact of the transit development.

The announcement of the Advisory Committee was made by the Minister of Transportation and Highways on May 5, 1990. Prior to this announcement, work on the project had already commenced by the Technical Committee. The Advisory Committee includes five representatives nominated by cities along the axis of development, three nominated by the BC Transit Board of Directors, and a Chair appointed by the Minister.

City of Vancouver Council nominees were Dr. Ken Denike and Brahm Wiesman; City of Richmond Council nominees were Alderman Kiichi Kumagai and Alderman Greg Halsey-Brandt (following civic elections in November 1990, Kiichi Kumagai remained as a member and Councillor Don Cummings replaced Greg Halsey-Brandt who was elected Mayor of Richmond); Delta Municipality Council nominee was Mike Owen; BC Transit Board nominees were Bill Vogel, Graham Clarke and Member of Legislative Assembly Nick Loenen. The Minister appointed Georgiana Evans as Committee Chair.

**Committee's Mandate**

The Committee's mandate was:

- To advise BC Transit with respect to rapid transit technology, route and station locations, adequacy of the $750 million budget, and timing and phasing of a rapid transit system between downtown Vancouver and Richmond Centre which must be extendable to Ladner and Steveston;

- To provide a forum for public participation and advise BC Transit regarding community related issues;

- To facilitate the resolution of inter-municipal disputes.

The mandate did not ask the Advisory Committee to address the question of whether there should be rapid transit in this corridor. The Provincial Government's decision was based on the numerous previous studies, including "Freedom to Move" which had actively involved various local councils in assessing the merits of a number of transportation options. It was not for the Advisory Committee to deliberate on the scale of infrastructure investment in the corridor. There were subsequent changes in the Committee's mandate, but they involved enlarging the geographical boundaries of the study to consider rapid transit to the Vancouver International Airport. The Committee's mandate was not changed to include the issue of the appropriate level of investment.

**Public Process**

The general framework for the study was divided into four stages; an initial inventory of all possible routes in the corridor would be successively reduced to ten, then three, and finally to the recommended route and technology. The screening or evaluation was in greater depth as the selection narrowed.

The Advisory Committee set up an extensive public information and consultation process. Displays in community centres, shopping malls and storefront project offices were followed by workshops with community groups, cable television panel discussions and

public hearings. Factual brochures were widely circulated and opinion surveys conducted.

In order to fully inform the new members of your Board the body of our report provides a detailed explanation of the process followed by the committee. For reasons explained in the report, public consultation did not proceed beyond the stage of reducing the number of options under consideration to ten.

The consultants did however proceed to reduce the number of options to three, ALRT and LRT on the Cambie Street alignment and LRT on the Arbutus Street alignment. All of these options involve tunnelling which increases the capacity of the system, minimizes negative impacts on existing traffic and the community, however, the costs increase significantly. Engineering for a low cost at grade system did not proceed, but this alternative is examined in the cost benefit analysis using a reasonable estimate of the costs. The cost benefit analysis indicated that although the capital cost was lower, the corresponding cost benefits were also lower.

**Conclusions**

1. Based on extensive analysis, the Committee has concluded that an ALRT (Automated Light Rail Transit) system using Cambie Street alignment has many advantages over the other two options carried forward to the final evaluation. Some of these advantages are:

    - it is the most cost effective in terms of cost per passenger, including capital and operating costs;
    - it is most certain to have the capacity to meet very long term ridership projections;
    - it has the highest speed, and being the most direct, the shortest travel time;
    - it has the greatest potential for increasing transit use;
    - it provides the best service for travel across the North Arm of the Fraser River and for travellers from Delta and Surrey;
    - it is the best option based on a limited cost-benefit analysis which considers tangible transportation costs and benefits;
    - it is the option most in accord with the G.V.R.D.'s Liveable Region Strategy to connect Regional Town Centres by transit;

All options serve the same number of present and future residents and jobs in Richmond. In suburban Vancouver the Cambie Street alignment serves more present and future jobs and marginally fewer present and future residents based on current zoning.

The estimated cost of this is $788,000,000 in 1992 dollars excluding the cost of mitigation.

All the options considered have some adverse community impacts; most of these are detailed in the technical reports. To reduce the impacts, the Committee has recommended that the system run underground through most of the Vancouver portion of the route. These costs are included in the above estimated capital cost. Where the consultants have not indicated undergrounding the intrusive impact of an elevated structure should be mitigated with strong urban design that blends the structure with existing buildings, uses creative landscaping and, where feasible, a dedicated at-grade right-of-way should be maximized.

This route may allow for completion in stages which could provide certain benefits:

- The early reduction of automobile traffic into the downtown core;
- The capital costs could be allocated to separate projects over a longer period of time;
- The first stage could proceed while further studies were conducted to resolve issues within Richmond and with regard to the extension to Steveston and Ladner.

2. The Committee believes that there is an urgent need to provide rapid transit between Vancouver and Richmond and that this system should be in place within the next 10 years.

3. The right-of-way should be preserved now to reduce the imminent danger of losing portions to other major developments.

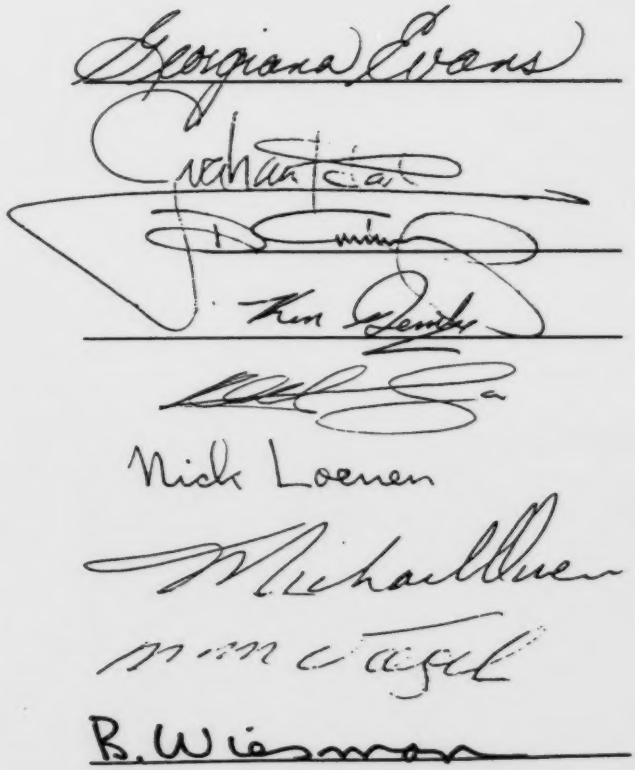
4. There is ample evidence that automobile and bus dominated transportation are environmentally costly and unsustainable for future urban development. Good quality rail transit systems which will last long into the future should be provided.

5. The ALRT on Cambie best fits the criteria that were used in the evaluation. However, there is still a high level of appeal for a low cost at-grade LRT system. A low cost LRT system such as the one in Portland is considered by some on the committee to be more urban friendly and to offer a lower initial capital cost.

   This type of system has a slightly higher capacity than a bus system, and offers certain appeal that could attract higher ridership than a bus only solution. This type of system will generate lower ridership and has a lower ultimate capacity than alternatives utilizing a dedicated right-of-way. It will also adversely affect roadway capacity and traffic safety. If this type of system is to be considered further, additional studies will be required to determine the best design.

The members of the Vancouver/Richmond Rapid Transit Advisory Committee greatly appreciate the input we received from the Ministry of Finance, the Ministry of Transportation and Highways, the Councils and staffs of the City of Vancouver, the City of Richmond and the Municipality of Delta, the BC Transit Board of Directors and staff, and the members of the Technical Committee. We especially wish to thank those members of the public who have participated individually or as members of special interest groups, throughout this study.

Sincerely,



Georgiana Evans, Chair

Graham Clarke

Don Cummings, P.Eng.

Dr. Ken Denike

Kiichi Kumagai

Nick Loenen

Mike Owen

Bill Vogel

Brahm Wiesman

Enclosures

cc: Honourable Glen Clark, Minister of Finance
Mayor Gordon Campbell
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Mr. Otto Voute, Corporation of Delta Engineering Department

Province of
British Columbia

# NEWS RELEASE

## MINISTRY OF FINANCE AND CORPORATE RELATIONS

For Immediate Release
November 6, 1992 73/92

### VANCOUVER-RICHMOND RAPID TRANSIT ADVISORY COMMITTEE REPORT RECEIVED BY MINISTER RESPONSIBLE FOR TRANSIT

VANCOUVER — Finance Minister Glen Clark, minister responsible for BC Transit, today announced that he has received the final report of the Vancouver-Richmond Rapid Transit Advisory Committee.

"I welcome the Advisory Committee report and would like to thank the committee members for their thoughtful efforts and hard work," said Clark.

"The proposals outlined in the report involve significant expenditures and I think we have to look at the planning issues involved and the question of how we might be able to pay for these major capital initiatives," said Clark.

The Advisory Committee report is one of a number of reports that government will review as it sets the transit agenda for the next two years.

"There is a great deal which needs to be examined before the government can make a commitment to these recommendations.

"After careful deliberation, I expect to take the results of this study, along with reports on Coquitlam rapid transit and the potential for commuter rail in the Lower Mainland area, to my cabinet colleagues in the new year."

The report will be made public after the mayors of the municipalities in the Vancouver Regional Transit System service area receive their copies this week.

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For more information contact:

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